# SR 520 Pontoon Construction Design-Build Project

# Environmental Compliance Plan Volume II

# Appendix B.2 Erosion and Sediment Control Plan for NPDES Sand and Gravel General Permit MOTHBALL PHASE

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**Prepared For:** 

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# **Attachments**

Attachment A Plan Sheets for Erosion and Sediment Control During Operations Stage

Attachment B Plan Sheets for Erosion and Sediment Control During Mothball Stages

Attachment C Erosion and Sediment Control Inspection Form

Attachment D Erosion and Sediment Control Site Map

# **Abbreviations/Acronyms**

Abbreviation/	
Acronym	Definition
BMP	Best Management Practice
CSGP	Construction Storm Water General Permit
Ecology	Washington State Department of Ecology
ECM	Environmental Compliance Manager
ECP	Environmental Compliance Plan
ESCL	Erosion and Sediment Control Lead
ESCP	Erosion and Sediment Control Plan
HCI	Hydrochloric Acid
HPA	Hydraulic Project Approval
HRM	Highway Runoff Manual
JARPA	Joint Aquatic Resources Permit Application
NPDES	National Pollutant Discharge Elimination System
Project	SR 520 Pontoon Construction Design-Build Project
SGGP	Sand and Gravel General Permit
SIC	Standard Industrial Code
SPCCL	Spill Prevention, Control, and Countermeasures Lead
SPCCP	Spill Prevention, Control, and Countermeasures Plan
SR	State Route
TDS	Total Dissolved Solids
TESC	Temporary Erosion and Sediment Control





# Abbreviation/

Acronym	Definition
TESCP	Temporary Erosion and Sediment Control Plan
TSS	Total Suspended Solids
USACE	United States Army Corp of Engineers
WDFW	Washington Department of Fish and Wildlife
WQMP	Water Quality Monitoring Plan
WSDOT	Washington State Department of Transportation
WWTP	Wastewater Treatment Plant



# 1.0 Introduction

This Erosion and Sediment Control Plan was developed to satisfy Permit Condition S5.A of the NPDES Sand and Gravel General Permit (SGGP) #WAG501544 issued by the Department of Ecology to Kiewit-General (K-G).

WSDOT's Contract Specifications and the NDPES Construction Storm Water General Permit (CSGP) require development of a Temporary Erosion and Sediment Control Plan (TESCP) to implement during the construction of this facility. After completion of site's facility construction, and upon the Ecology CSGP contact's confirmation that this site was stabilized, the CSGP coverage was terminated on January 2, 2014. While the TESC no longer applies to this facility's day-to-day operations, information contained in that plan will be referenced throughout this ESC Plan when such information is expected to be helpful in the understanding and implementation of this Plan. For example, the following important information is found only in the TESC and may be pertinent to the continuing management of the site's environmental compliance efforts:

- TESC Calculations, signed and sealed by Registered Professional Engineer
- Description of this site's existing conditions (including geological information) prior to construction of the currently operating facility
- Detailed description of the three construction phases for this site:

Phase 1: Construction of Casting Basin

Phase 2: Operations (fabrication of pontoons)

Phase 3: Mothball (site closure)

It is important to note that this is not a "stand-alone" plan, and that the site's environmental management personnel must reference several other interrelated environmental plans in order to successfully implement all required compliance efforts. While this plan is provided as an appendix to this site's Environmental Compliance Plan (ECP), it is also identified as one of four distinct plans that comprise the "Site Management Plan", as defined by the SGGP condition S.5. Per this permit condition, the Site Management Plan (SMP) must include the following plans:

- Erosion And Sediment Control Plan
- Water Quality Monitoring Plan
- Stormwater Pollution Prevention Plan
- Spill Control Plan



All of the above listed plans are included as appendices to this site's Environmental Compliance Plan (ECP).

# 2.0 Purpose of the Erosion and Sediment Control Plan

This Erosion and Sediment Control Plan (ESCP) describes the permanent BMPs selected for storm water detention and water quality treatment during operation of this Project and temporary BMPs for any earthwork that may be required due to slope failure or other unanticipated condition. A BMP is a physical, structural, and/or managerial practice that prevents or reduces the pollution of water.

The objectives of this ESCP are the following:

- Implement BMPs to minimize erosion and sedimentation from rainfall at construction sites, and to identify, reduce, eliminate, or prevent the pollution of storm water.
- Prevent regulatory violations of surface water quality, ground water quality, or sediment management standards.

While demobilizing the site on preparation for Mothbal Phase, Kiewit-General will keep the ESCP and BMP inspection reports onsite. When the project shifts to mothball stage, the NPDES Sand and Gravel General Permit will be transferred to WSDOT, and the WSDOT Project Office will retain the ESCP, inspection reports, and all other reports required by the contract and permitting authorities.

# 2.1 Plan Modifications, Updates and Supplements

Should field conditions require additional temporary BMPs or if a change in placement of temporary BMPs is needed, this plan will be modified by the site management.



# 3.0 Environmental Compliance Team

Until the site is turned over to WSDOT, the Environmental Compliance Team consists of Kiewit-General's Environmental Compliance Manager (ECM), the Environmental Compliance Lead (ECL), and supporting Environmental Personnel (EP). The roles and responsibilities for members of the Environmental Compliance Team are provided in Table 2 of the Environmental Compliance Plan (ECP).

The ECM and ECL are responsible for implementing, enforcing, maintaining, and revising this ESCP. Kiewit-General is responsible for installing and maintaining all BMPs through the operation phase and is responsible for removing the BMPs when they are no longer needed per the requirements in this plan. Whenever an inspection reveals that the BMPs specified in the ESCP may be inadequate due to an actual or a potential discharge of a significant amount of any pollutant, the ESCP will be updated as described in Section 2.1 above.

As required by the SGGP, both the ECM and ECL shall have the training and certification to administer an active and effective erosion and spill control program.

# 4.0 ESCP Elements

Minimum requirements of the WSDOT Highway Runoff Manual (HRM) for erosion and sediment control were implemented during the construction and operation of this Project. These requirements are described in the following sections and are consistent with the requirements of the SGGP.

# 4.1 Element #1: Mark Clearing Limits

No additional clearing activities are planned, and there is no requirement to mark protected environmentally sensitive areas during Mothball Phase. However, the natural ditch located east of the parking lot is a protected wetland which should be marked (i.e., orange fence) if the site begins operations again.

# 4.2 Element #2: Establish Construction Entrance

Two entrances are maintained at the site. These entrances were stabilized and paved during the construction phase. No additional BMPs are anticipated.



# 4.3 Element #3: Control Flow Rates

# 4.3.1 Discharge Paths

Downstream properties and waterways will be protected from erosion by preventing increases in the volume, velocity, and peak flow rate of storm water runoff from the site.

Non-storm water (dewatering, line flushing discharges, process water) will also be controlled to protect downstream properties. The flow rate from these activities will be controlled to minimize scouring and flushing of sediment trapped in the system.

6/11/2014: riprap (1' quarry spalls) splash pad at outfall POC-2 (West Ditch) was noted to have been displaced, most likely caused by high flow of water discharged from Pond 1 on 6/9/2014. The high flow was necessary because incoming process water at Pond 1 was detained for about a week while the submersible pump was being repaired/replaced, and by 6/9/2014 water levels in the pond was near maximum. KG had to remove the air bladder plug at POC-2 to allow the process water to discharge by gravity flow. The process water pH and turbidity were both within permit limits. This high flow discharge was an unusual event, and it is not expected to be repeated. Damage was limited to the immediate area beneath the outfall POC-2, and there was no other damage evident at downstream properties. KG restored these quarry spalls back to their original positions below the outfall, no additional rock will be used. Refer to section 4.6.3 of this plan for more information about this outfall slope protection.

# 4.3.2 North Pond Detention/Retention

After the temporary concrete batch plant and the permanent process water ponds were constructed, process water from all activities within the pre-cast laydown and casting basin areas is pumped to the process water pond for treatment. The process water must meet the discharge criteria in the NPDES SGGP.

A sulfuric acid system was installed to neutralize high pH water. The high pH water is pumped from the casting basin collection system up to the north process water pond. The first cell provides settlement. The process water is pumped from the settlement cell and passed through a treatment system designed to treat the flow at or near the pump rate from the casting basin. The process water was treated for turbidity, pH, and TSS. If the process water is treated and tested and meets permit discharge criteria it is discharged to the west ditch. If the treated process water does not meet permit criteria, it is discharged into a storage cell in the north pond. An additional cell is also provided as an emergency reserve cell in the north pond. The north pond has three cells to provide primary, secondary, and tertiary treatment as necessary. Additional volume to



contain the 10-year/24-hour Design Storm is provided in the casting basin and the process water pipe collection system.

#### 4.3.3 Ground Water Flow Control

The infiltration trench is designed according to the anticipated ground water pumping rates to infiltrate at a rate that will maintain the ground water elevation at the site perimeter. The ground water settlement pond, Pond 4, is designed to treat the ground water for sediment removal prior to infiltration. Pond 4 is designed as a double chamber providing primary and secondary settlement because of the anticipated fluctuations in flows as well as the possibility for re-suspension from the discharge energy dissipater. Ground water is pumped by electric sump pumps from beneath the casting basin and into Pond 4's first chamber (west end). As the ground water is collected, it overflows the berm dividing the two chambers, and starts filling the second chamber (east end). The second chamber is connected to a pipe which drains into a special drainage control structure located between the pond and the site's East Ditch. From this drainage control structure, the water enters the infiltration trench connection pipe where it can flow and infiltrate the ground along the east perimeter of the project site (beneath the parking lot). If the infiltration trench is saturated, the ground water begins to fill the drainage control structure up to another pipe at a higher elevation, which then drains directly to the East Ditch via the POC-5 outfall. See Section 4.10 of this plan for more information about the infiltration trench.

#### 4.3.4 **General Flow Control Approach**

During the operations phase, temporary sediment ponds constructed during the construction phase switched to function as water quality treatment and sediment control during casting of the pontoons. After the site is mothballed, these ponds will function as wet pond treatment facilities.

Although not currently present, Pond 2 may have an enhanced sand filtration system for treating sediment. A pump may be implemented to pump runoff between the east and west ponds for treatment and discharge. Treated runoff may be discharged into a stabilized ditch that conveys runoff to an existing outfall (POC-1) location into the west perimeter ditch adjacent to the large stockpile.

Pond 1 functions as a sediment pond and process water treatment pond. The pond gravity discharges into the west perimeter ditch at an existing outfall location, POC-2. A



closed pipe underground conveyance system has been constructed (as a contingency) to allow batch discharge of treated runoff directly into the City of Aberdeen Wastewater Treatment Plant system, but the site management must first obtain a State Waste Discharge Permit

# 4.4 Element #4: Install Sediment Controls

The ponds are designed to treat the 10-year/24 hour Design Storm flows for sediment control. The ponds are anticipated to settle silt particulates (0.02 mm in diameter) with a settling velocity of 0.00096 ft/sec<sup>2</sup> without requiring additional treatment mechanisms. The ponds have been designed to have flat bottom, 5-foot deep cells, 1-foot of freeboard, and emergency spillways.

Although not currently present, use of an enhanced sand filtration system may be necessary to treat fine silt and clay particulates smaller than (0.02 mm). Silt fences, straw bales, gravel filter berms, compost socks, grass-lined ditches, and slope stabilization BMPs may be used to reduce sediment travel/suspension in the storm water surface runoff to the ponds. The ditches have been designed with very flat grades to slow the runoff velocities and minimize the sediment carrying capacity of the runoff.

In addition to the permanent sediment controls required for project operation, temporary sediment control measures may be needed if slope failures occur or if other unanticipated earthwork is required at any time. Such temporary, physical, sediment control BMPs include the following:

- Silt fence
- Compost Socks
- Compost Berms
- Check dams
- Straw bale barrier (not used in perimeter ditches that discharge to the harbor)
- Wattle
- Sediment ponds
- Inlet protection
- Outlet protection

Turbid water, sediment, and debris from line flushing and cleaning the drainage pipes will be completely contained, collected, and treated. As allowed by the SGGP, chemical treatment may be used on this site for pH neutralization and may be used to control turbidity.



# 4.5 Element #5: Stabilize Soils

At the end of the construction phase, all exposed soils were stabilized with permanent BMPs that protect the soil from wind, rain, and flowing water. All remaining exposed soils were vegetated, requiring very minimal maintenance during operation of the Project.

The onsite soil basin excavation stockpile has been stabilized with permanent stabilization BMPs [Update by BTA: Plastic applied in Sept. 2011]. As of summer of 2012, the basin excavation stockpile had fully established vegetative cover. The onsite soil stockpile was graded to ensure that runoff drains toward the vegetated conveyance ditch that runs along the east side of the stockpile and not to the western perimeter ditch (Site Layout provided in the SWPPP). Conveyance ditches and biofiltration swales were vegetated and stabilized for water quality treatment to ensure that solids settle out prior to discharge.

Temporary soil stabilization measures may be implemented if slope failures occur or if other unanticipated earthwork is required.

Prior to turning the site over to WSDOT for Mothball Phase, Kiewit-General hydroseeded the following areas:

- Top of the large stockpile where about half the area (1 acre) had been regraded smooth, after staged materials were removed in 2015.
   Hydroseeding was applied in of April 2015.
- Area southwest of Pond 2 where it was regarded smooth after staged materials were remove din 2015. Hydroseeding was applied in of April 2015.
- West, East, and North areas of the site per the attached "Hydroseed Map".
   Hydroseeding was applied in June of 2015.



# 4.5.1 Potential Physical Best Management Practices

- Preserving vegetation
- Temporary mulching and compost socks (if slope failure occurs and requires re-vegetation)
- Placing erosion control blanket
- Gravel base
- Straw mulch
- Placing plastic covering
- Construction road stabilization
- Seeding and planting
- Topsoil
- Dust control
- Mechanically bonded fiber matrix/fiber reinforced matrix

# 4.6 Element #6: Protecting Slopes

During the construction phase, cut-and-fill slopes were constructed in a manner that minimized erosion potential by: (1) reducing continuous length and steepness of slopes with terracing and diversions, (2) reducing slope steepness, and (3) roughening slope surfaces, considering soil type and its potential for erosion. All soil was protected from concentrated flows through temporary conveyances such as diversions and ground water cut-off trenches (in the casting basin). These slopes are expected to be stable during the operation phase; however, temporary slope protection measures may be required if unanticipated earthwork becomes necessary.

# 4.6.1 Stockpile Slopes

The onsite soil stockpile slopes was made of the material excavated from the casting basin. During the construction phase, the slopes were graded to a 3:1 (H:V) slope, compacted with a track style dozer, and seeded for stabilization. The geotechnical report for this Project summarizes the physical properties of the stockpiled material, the stacking characteristics of the soil, angle of repose, soil shear strength, and anticipated settlement factors (Shannon & Wilson 2010). These slopes are expected to be stable through the duration of the operations phase; however, should slope failures occur that require additional earthwork, temporary and/or permanent slope stability BMPs may be implemented.

# 4.6.2 Other Slopes

Existing ditch slopes are protected in place to prevent sedimentation or erosion into the perimeter ditches. Constructed slopes were compacted and seeded for stabilization.



Compost-amended socks may be used in conjunction with silt fences at the bottom of the slopes to trap sediment if needed. These slopes are expected to be stabile during the Mothball Phase; however, additional slope protection measures may be implemented if supplemental earthwork becomes necessary.

#### 4.6.3 Outfalls

The proposed outfalls were constructed in a manner that minimized the impacts to the ordinary high water mark and prevents erosion into the perimeter ditches. The slopes were covered with a geotextile for permanent erosion control and covered with a rock stabilization splash pad. The rock splash pad is designed to dissipate outfall flow energy and the erosion control geotextile is designed to prevent underscore of the splash pad.

6/11/2014: riprap (1' quarry spalls) splash pad at outfall POC-2 (West Ditch) was noted to have been displaced, most likely caused by high flow of water discharged from Pond 1 on 6/9/2014. The high flow was necessary because incoming process water at Pond 1 was detained for about a week while the submersible pump was being repaired/replaced, and by 6/9/2014 water levels in the pond was near maximum. KG had to remove the air bladder plug at POC-2 to allow the process water to discharge by gravity flow. The process water pH and turbidity were both within permit limits. This high flow discharge was an unusual event, and it is not expected to be repeated. KG restored these quarry spalls back to their original positions below the outfall.

8/12/2014: We restored the quarry spalls at outfall POC-2 to their original positions.

8/20/2014: Quarry spalls at outfall POC-2 were displaced again by discharge flow, although the discharge rate was based on using a 6" diesel pump rather than a 4" diesel pump. This size pump is not unusual, and KG plans on using this capacity from now on to drain the ponds at a more reasonable rate in order to keep pace with on-going precipitation during the wet season. KG will consulted with the site design engineer to revise the POC-2 outfall splash pad so that it can withstand these higher flows rates.

9/10/2014: The site design engineer provided KG with a revised design for the splash pad at outfall POC-2. The revision involves replacing the smaller riprap rock (1'quarry spalls) with large riprap rock (2' quarry spalls). KG implemented this change upon design review and acceptance by WSDOT, Washington Department of Ecology, the USACE, and the WDFW. Work did change the overall footprint of the splash pad, and will be completed within the "in-water work window" specified in the project's HPA permit.



# 4.6.4 Potential Physical Best Management Practices

- Channel lining (riprap, grass)
- · Erosion control blanket

# 4.7 Element #7: Protect Drain Inlets

Drain inlets found in the precast casting beds were protected with inlet filter fabric in order to reduce concrete fines from entering the drainage system or the process water treatment pond. Drains located in the casting basin were protected will oil booms in order to absorb any oil sheens on the process water prior to being pumped to the process water pond. The stormwater catch basin located just outside the east entrance gate wasalso be protected with a filter fabric insert to trap sediments, as well as oily sheens. If a slope failure and reconstruction occurs, any inlets at risk of increased sediment will be fitted with inlet protection devices. However, during Mothball Phase, none of these inlets will require protection.

# 4.7.1 Potential Physical Best Management Practices

Inlet protection, if needed

# 4.8 Element #8: Stabilize Channels and Outlets

Stabilization adequate to prevent erosion of outlets, adjacent stream banks, slopes, and downstream reaches shall be provided at the outlets of all conveyance systems. Straw bales, gravel filter berms, grass, and compost socks may be used if needed to stabilize the existing and permanent ditches during storm events or in the event of slope failure.

Ditches are designed according to the 10-year/24-hour Design Storm event and are designed with flat gradients to minimize runoff velocities. Outfalls from conveyance systems are designed according to the 25-year and 100-year storm events with velocities between 3 and 10 feet per second. Outfall protection has been designed according to the design velocities and the HRM (WSDOT 2008a).

# 4.8.1 Potential Physical Best Management Practices

- Outlet protection
- Check dam
- Erosion control blanket
- Straw bales (used only in channels that are onsite conveyance channels and not directly connected to the perimeter ditches or the harbor)
- Gravel filter berms
- Vegetation
- Compost socks



# 4.9 Element #9: Control Pollutants

# 4.9.1 Materials Handling & SPCC Plan

All pollutants, including manufacturing materials and waste materials, are handled and disposed of in a manner that does not cause contamination of storm water. Application of chemicals will be conducted in a manner and at application rates that will not result in a loss of chemicals to storm water runoff. Manufacturers' label requirements for application rates and procedures will be followed.

Methods for controlling pollutants that can be considered hazardous materials, such as hydrocarbons and pH-modifying substances, are described in the Spill Prevention, Control and Countermeasures Plan (SPCCP), found in the ECP.

However, during Mothball Phase, no materials or chemicals are anticipated to be stores on site.

## 4.9.2 Process Water

Water used in the concrete curing process was handled in accordance with the NPDES SGGP and remained separate from the storm water and ground water management systems. Other storm water or ground water that comes in contact with curing concrete or concrete grindings will be considered process water, and will be sampled to ensure water quality standards are not violated. Process water will be contained and will not be discharged to the waters of the State until treated to meet the requirements of the NPDES SGGP. However, during Mothball Phase, no site activities are anticipated to generate process water.

# 4.9.3 Chemical Treatment

The ESCP may involve, as necessary, treating water with a sand-enhanced filtration system for turbidity to achieve compliance. If the enhanced sand filtration system cannot meet the required discharge criteria, a Chitosan-enhanced treatment system may be provided to meet the discharge water quality requirements. A Chitosan treatment system was not required during the operations phase because the erosion control BMPs were stabilized, but such a system can be made available as a contingency measure, if needed, during Mothball Phase. If Chitosan is used, polyacrylamide (PAM) will not be used because it interferes with the Chitosan functions. After the temporary batch plant and the permanent process water pond were constructed, process water from all activities within the pre-cast laydown and casting basin areas was pumped to the process water pond for treatment. The process water must meet the discharge criteria in the NPDES SGGP.



Several methods may be used to treat high pH water from process areas including CO<sub>2</sub>(dry ice), HCl, and/or sulfuric acid treatments. The preferred method for this Project was applying sulfuric acid to high pH water through an inline self-contained treatment system. The high pH water was tested with an inline system and the proper dose was determined to avoid over-dosing.

# 4.9.4 Temporary Batch Plant Process Water

A concrete batch plant was onsite and operating during the pontoon fabrication phase. However, the batch plant demobilized from the site between February 2015 and April 2015.

#### 4.9.5 Oil/Fuel

Maintenance and fueling for trucks and equipment was performed in designated locations and/or with the use of spill prevention devices. Oil booms were readily available at all sediment ponds to remove sheen in the ponds. The flow control structures are designed to trap oils and other floatables to control pollutants. Daily inspection for oil sheen was conducted. However, during Mothball Phase, no equipment or equipment maintenance activities are anticipated to occur on site.

# 4.9.6 Potential Physical Best Management Practices

- Sediment Traps & Sediment Ponds
- Dust control
- SPCCP

# 4.10 Element #10: Control Dewatering

Ground water is collected from underdrains below the casting basin slab and side slopes. The ground water collected from the dewatering system is pumped to the presettling pond, Pond 4, from which it is re-infiltrated into the ground using an infiltration bed parallel to the east side of the site. This re-infiltration of ground water is critical to maintain the ground water elevation at the perimeter of the site, and to minimize the potential for settlement and impact to adjacent, offsite structures. Ground water discharged to the infiltration bed must meet NPDES SGGP requirements for oil sheen.

The ground water will be treated in Pond 4 and gravity fed into a drainage structure that connects to an underground infiltration trench. The infiltration technology is intended to maintain ground water levels to prevent settlement of adjacent structures and/or site features. However, if the infiltration trench is saturated and cannot infiltrate any more water, the water rises inside the drainage structure until it reaches another connection



to a discharge pipe which then conveys the groundwater to outfall POC-5, subsequently discharging to surface waters in the East Ditch. Groundwater discharged to surface waters must meet NPDES SGGP requirements for oil sheen, pH, Turbidity, and Total Suspended Solids (TSS).

The infiltration trench is designed to spread the flows across the trench and uses a gravel matrix bed to disperse water back into the ground. The gravel matrix consists of fine, washed pea gravels (designed to slow infiltration velocities) and a larger rock stratum designed for capacity. The infiltration trench is approximately 500 feet long, 4 feet wide, and excavated to a depth of 2 feet below the woody debris layer.

The infiltration trench is located adjacent to the existing east perimeter ditch onsite adjacent to the Aberdeen WWTP. The site grading, infiltration trench location, and emergency outfall have been designed to minimize impacts to the existing ditch system, side slopes, and drainage characteristics, thereby preserving the natural vegetated ditch slope stabilization.

# 4.11 Element # 11: Maintain Best Management Practices

The ECM or the ECL shall inspect BMPs per Standard Specification 8-01.3(1)B to ensure they properly perform their intended functions until either Ecology gives approval to terminate the BMP inspections or until site operations and the SGGP are transferred to WSDOT. Final stabilization means completion of all soil disturbing activities, and establishment of a permanent vegetative cover or permanent stabilization measures (such as riprap) to prevent erosion. BMPs will be maintained in accordance with Standard Specification 8-01.3(15) (WSDOT 2008b). When the depth of accumulated sediment and debris reaches approximately one-third the height of the device, the contractor must remove the deposits. BMP implementation and maintenance will be documented in the Site Log Book.

# 4.12 Element #12: Manage the Project

To the maximum extent possible, the following guidelines will be applied:

- Preserve vegetation and minimize disturbance and compaction of native soil, except as needed for building purposes.
- To minimize erosion, follow soil cover timing requirements and exposure limits in ESCP Element #5 (Section 4.5 above)



- All BMPs are inspected, monitored, and maintained in accordance with ESCP Element #11 (Section 4.11 above). Sampling may be initiated to ensure compliance.
- Required water sampling will be conducted at the outfalls and discharge locations as outlined in the Water Quality Monitoring Plan (WQMP).
- The ESCP and SPCCP shall be maintained. Because of the unpredictable nature of weather and construction conditions, the ESCP is a flexible document that is open to modifications whenever field conditions warrant. Whenever inspections and/or monitoring reveal that the BMPs identified in the ESCP are inadequate because of the actual discharge of, or potential to discharge, pollutants, the plans must be modified as soon as possible but within 7 days. Fully implement and maintain BMPs as soon as possible but within 10 days. The plans must also be updated whenever there are significant changes in the project design or in construction methods that could affect the potential for erosion or spills.



# 7.0 Inspection and Maintenance Schedule

# 7.1 Erosion and Sediment Control Inspections

In accordance with WSDOT Standard Specifications (2008) Section 8-01.3(1)B, as well as the SGGP condition S4.F, site inspections shall be completed as follows:

- Weekly BMP Inspections: Inspect all on-site erosion and sediment control BMPs at least once every 7 days.
- Storm Event BMP Inspections: Inspect all on-site erosion and sediment control BMPs within 24 hours after any storm event greater than 0.5 inches per 24-hour period
- Wet Season Inspection (October 1 April 30): Every year, conduct at least one wet season site inspection during a rainfall event adequate in intensity and duration to verify all observed pollutant sources have been identified in the SWPPP, site conditions are updated in the SWPPP Site Map, BMP pollutant controls identified in the SWPPP are adequate.
- **Dry Season Inspection** (May 1 September 30): Every year, conduct at least one dry season site inspection after at least 7 consecutive days of no precipitation, to determine the presence of unauthorized non-stormwater discharges, and confirm proper implementation of BMPs per the SWPPP.

For the above listed inspections, WSDOT form number 220-030 EF will be used as required by WSDOT Standard Specifications, and it will be adapted to include additional specific information as required by the SGGP. This adapted form is provided in Attachment C of this plan.

# 7.2 Water Quality Monitoring

The Water Quality Monitoring Plan has been prepared to address the water quality monitoring required for various activities associated with the operation of the site. Operation phase dewatering, chemical storm water treatment, and high pH process water will all require monitoring and reporting, which are defined in the NPDES SGGP and its related Water Quality Monitoring Plan (Appendix H.2 of the Environmental Compliance Plan). Section 6 of the HRM also includes guidelines, procedures, and requirements for water quality monitoring, sampling, data acquisition, and reporting that will be followed as appropriate.



# 7.2 Permanent Stabilization

The permanent stabilization BMPs for this project consists of the following:

- Permanent seeding, fertilizing, and mulching
- Outfall protection
- Slope stabilization

Disturbed areas will be planted with a seed/mulch mixture to prevent soil erosion. Seeding and planting shall be done according to the dates in the Special Provisions and the Standard Specification unless otherwise approved by the Project Engineer.

# 8.0 Vegetation Management Plan

Permanent erosion and sediment controls on this project include seeding and mulching. Disturbed areas will be reseeded with permanent cover as soon as possible.

# 9.0 References

- HNTB. 2010. Type A Draft Hydraulic Report, SR 520 Pontoon Construction Project. August.
- Shannon & Wilson. 2010. Preliminary Geotechnical Engineering Recommendations, State Route (SR) 520 Pontoon Casting Facility. Aberdeen, Washington. 27 August.
- Washington State Department of Transportation (WSDOT). 2008a. *Highway Runoff Manual*. M 31-16.01. Environmental and Engineering Programs Design Office. Olympia, Washington. June.
- Washington State Department of Transportation (WSDOT). 2008b. Standard Specifications for Road, Bridge, and Municipal Construction. M 41-10.
- Washington State Department of Transportation (WSDOT). 2009. SR 520 Pontoon Construction Design-Build Project. Request for Proposal. Olympia, Washington.

# **Attachment A**

Plan Sheets for Erosion and Sediment Control

During Operations Stage

THIS SECTION DELETED, NOT APPICABLE DURING MOTHBALL PHASE

# **Attachment B**

Plan Sheets for Erosion and Sediment Control During Mothball Stages

#### TEMPORARY EROSION/SEDIMENTATION CONTROL GENERAL NOTES

- 1. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE SET BY SURVEY AND CLEARLY FLAGGED IN THE FIELD PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE OR REMOVAL OF ANY GROUND COVER BEYOND THE FLAGGED CLEARING LIMITS SHALL BE PERMITTED. THE FLAGGING SHALL BE MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF CONSTRUCTION.
- THE ESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED PRIOR TO OR IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES IN SUCH A MANNER AS TO ENSURE THAT SEDIMENT-LADEN WATER DOES NOT FLOW OFF THE SITE OR VIOLATE APPLICABLE WATER STANDARDS. WHEREVER POSSIBLE, MAINTAIN NATURAL VEGETATION FOR SILT CONTROL.
- 3. THE ESC FACILITIES SHOWN ON THIS PLAN ARE THE MAXIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED (E.G., ADDITIONAL SUMPS, RELOCATION OF DITCHES AND SILT FENCES, ETC.) AS NEEDED FOR UNEXPECTED STORM EVENTS. ADDITIONALLY, MORE ESC FACILITIES MAY BE REQUIRED TO ENSURE COMPLETE SILTATION CONTROL. THEREFORE, DURING THE COURSE OF CONSTRUCTION IT SHALL BE THE OBLIGATION AND RESPONSIBILITY OF THE ESC LEAD TO ADDRESS ANY NEW CONDITIONS THAT MAY BE CREATED BY CONSTRUCTION ACTIVITIES AND TO PROVIDE ADDITIONAL FACILITIES OVER AND ABOVE THE MINIMUM REQUIREMENTS AS MAY BE NEEDED.
- 4. AT NO TIME SHALL MORE THAN ONE FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT-LADEN WATER INTO THE DOWNSTREAM SYSTEM.
- 5. ANY PERMANENT POND FACILITY USED AS A TEMPORARY SETTLING BASIN SHALL BE MODIFIED WITH THE NECESSARY EROSION CONTROL MEASURES AND SHALL PROVIDE ADEQUATE STORAGE CAPACITY. IF THE PERMANENT FACILITY IS TO FUNCTION ULTIMATELY AS AN INFILTRATION OR DISPERSION SYSTEM, THE FACILITY SHALL NOT BE USED AS A TEMPORARY SETTLING BASIN.
- 6. WHERE SEEDING FOR TEMPORARY EROSION CONTROL IS REQUIRED, FAST GERMINATING GRASSES SHALL BE APPLIED AT AN APPROPRIATE RATE (EXAMPLE: ANNUAL OR PERENNIAL RYE APPLIED AT APPROXIMATELY 80 POUNDS PER ACRE).
- 7. WHERE STRAW MULCH IS USED FOR TEMPORARY EROSION CONTROL, IT SHALL BE APPLIED AT A MINIMUM THICKNESS OF 2".
- 8. A COPY OF THE APPROVED EROSION CONTROL PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
- 9. ALL PROPERTIES ADJACENT TO THE PROJECT SITE SHALL BE PROTECTED FROM SEDIMENT DEPOSITION AND RUNOFF.
- IF AN ENHANCED SAND FILTRATION SYSTEM (ESFS) IS NECESSARY TO MEET WATER QUALITY STANDARDS. THE CONTRACTOR SHALL DETERMINE WHERE THE SYSTEM IS LOCATED.
- 11. PRIOR TO THE OCTOBER 1 OF EACH YEAR (THE BEGINNING OF THE WET SEASON), ALL DISTURBED AREAS SHALL BE REVIEWED TO IDENTIFY WHICH ONES CAN BE SEEDED IN PREPARATION FOR THE WINTER RAINS. THE IDENTIFIED DISTURBED AREA SHALL BE SEEDED WITHIN TWO DAYS AFTER OCTOBER 1. A SITE PLAN DEPICTING THE AREAS TO BE SEEDED AND THE AREAS TO REMAIN UNCOVERED SHALL BE SUBMITTED FOR APPROVAL SEED ADDITIONAL AREAS IN ORDER TO PROTECT SURFACE WATERS, ADJACENT PROPERTIES, OR DRAINAGE FACILITIES, IF REQUIRED BY THE ENGINEER.
- 12. IF NECESSARY ABOVE GROUND TANKS WILL BE USED WHEN CONSTRUCTION CONDITIONS DO NOT PROVIDE SPACE NEEDED FOR ADEQUATELY SIZING SEDIMENT TRAPS, THEY WILL ALSO BE USED FOR TREATING ANY HIGH PH RUNOFF FROM CONCRETE PLACEMENT OR GRINDING. THE CONTRACTOR SHALL DETERMINE WHERE TANKS ARE TO BE LOCATED.

- MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE HIGHWAY RUNOFF STANDARDS, PERMIT CRITERIA, AND MANUFACTURER'S RECOMMENDATIONS.
- 14. RELOCATE EROSION CONTROL MEASURES OR INSTALL NEW MEASURES SO THAT AS SITE CONDITIONS CHANGE, THE EROSION AND SEDIMENT CONTROL IS ALWAYS IN ACCORDANCE WITH THE TESC MINIMUM REQUIREMENTS.
- 15. COVER ALL AREAS WITHIN THE SPECIFIED TIME FRAME WITH STRAW, WOOD FIBER MULCH, COMPOST, PLASTIC SHEETING, CRUSHED ROCK OR EQUIVALENT.
- 16. SEED OR SOD ANY AREAS TO REMAIN UNWORKED FOR MORE THAN 30 DAYS.
- 17. UPON COMPLETION OF THE PROJECT, ALL DISTURBED AREAS MUST BE STABILIZED AND TEMPORARY BEST MANAGEMENT PRACTICES REMOVED (IF APPROPRIATE).

#### CONSTRUCTION APPROACH

THE PROJECT APPROACH INVOLVES THREE DISTINCT PHASES. THE FIRST PHASE IS SITE DEVELOPMENT AND CONSTRUCTION OF THE CASTING BASIN FACILITY. THE SECOND PHASE IS THE OPERATIONS AND CONSTRUCTION OF THE PONTOONS. THE THIRD PHASE INVOLVES THE MOTHBALLED STATE OF THE SITE WITH NO ACTIVITY.

THE FOLLOWING IS A GENERAL CONSTRUCTION SEQUENCE THAT WILL BE USED FOR THE CONSTRUCTION OF THE SITE. THE SEQUENCE MAY BE CHANGED DURING CONSTRUCTION AND THE TESC PLAN WILL BE UPDATED ACCORDINGLY.

#### TESC PHASE 1 (CONSTRUCTION)

PHASE 1A WORK INVOLVES INSTALLING TEMPORARY DEWATERING WELLS, CONSTRUCTING THE INFILTRATION TRENCH AND BEGINING GRADING AND CONSTRUCTION OF THE CASTING BASIN, STOCKPILE, AND PERFORMING SITE PREPARATION AND DEMOLITION.

PHASE 1B INVOLVES CONSTRUCTION OF THE UTILITIES, AND TEMPORARY BATCH PLANT, PARKING LOT AND NORTH END POND AREAS WHILE CONSTRUCTION ACTIVITIES CONTINUE IN THE CASTING BASIN.

PHASE 1C INVOLVES COMPLETING THE CASTING BASIN, PRECAST LAYDOWN AREAS, AND ANY REMAINING UPLAND CONSTRUCTION ACTIVITIES. DURING THIS PHASE, TEMPORARY BMP'S ARE BEGINNING TO BE REMOVED AS THE SITE IS STABILIZED AND AS THE SITE TRANSITIONS FROM THE NPDES GENERAL CONSTRUCTION PERMIT INTO THE NPDES SAND AND GRAVEL PERMIT, PERMANENT WATER QUALITY TREATMENT FACILITIES WILL BE USED TO ACHIEVE THE NPDES SAND AND GRAVEL PERMIT CRITERIA.

PHASE 1D INVOLVES DREDGING THE LAUNCH CHANNEL AND INSTALLING DOLPHINS, LAUNCH CHANNEL PROTECTION, AND FINAL DRAINAGE OUTFALLS.

## TESC PHASE 2 (OPERATIONS)

PHASE 2 INVOLVES ACTIVITIES ASSOCIATED WITH MANUFACTURING PONTOONS. THIS PHASE WILL UTILIZE THE PERMANENT GROUNDWATER DEWATERING, PROCESS WATER TREATMENT, AND GENERAL SURFACE WATER SEDIMENT AND WATER QUALITY TREATMENT SYSTEMS. WATER DISCHARGED FROM THE PROCESS WATER POND WILL MEET THE TSS, TURBIDITY, AND pH CRITERIA ESTALISHED IN THE NPDES SAND AND GRAVEL PERMIT AND/OR THE WASTEWATER DISCHARGE PERMIT (TO THE SEWER TREATMENT PLANT). WATER DISCHARGED FROM THE WET POND SYSTEMS WILL MEET THE NPDES SAND AND GRAVEL PERMIT CRITERIA.

#### TESC PHASE 3 (MOTHBALL)

PHASE 3 INVOLVES REMOVING ANY REMAINING TEMPORARY BMP'S, REMOVING THE TEMPORARY BATCH PLANT, AND PREPARING ANY FINAL BMP'S THAT WILL STAY IN PLACE AFTER COMPLETION OF ALL CONSTRUCTION AND MANUFACTURING ACTIVITIES (MOTHBALL STATE).

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#### PHASE 1A (CONSTRUCT CASTING BASIN FACILITY)

- 1. FLAG OR FENCE CLEARING LIMITS.
- 2. INSTALL CATCH BASIN INLET PROTECTION.
- 3. GRADE AND INSTALL CONSTRUCTION ENTRANCE(S) AND PIPE PROTECTION SLAB.
- 4. INSTALL PERIMETER PROTECTION (SILT FENCE, SECURITY FENCE, HVF).
- 5. CONSTRUCT POND 3 SEDIMENT POND.
- CONSTRUCT GROUND WATER PRESETTLEMENT POND 4 AND INFILTRATION TRENCH.
- 7. INSTALL TEMPORARY GROUNDWATER DEWATERING WELLS.
- 8. INSTALL SHEET PILE CUTOFF WALL
- . PUMP EXISTING DITCHES DRY WHERE NECESSARY, CLEAR AND GRUB WORKING AREAS.
- CONSTRUCT A STABILIZED DITCH AROUND THE STOCK PILE AREA AND BEGIN EXCAVATING THE CASTING BASIN.

#### PHASE 1B (CONSTRUCT CASTING BASIN FACILITY)

- CONTINUE CONSTRUCTION OF THE CASTING BASIN, GATE, SILL, AND JAMB. ALL SEDIMENT LADEN RUNOFF WILL BE PUMPED TO THE SEDIMENT PONDS FOR TREATMENT.
- BEGIN UTILITY TRENCHING FOR SEWER, WATER, POWER, AND STORM DRAINAGE SYSTEMS, COVER ALL MANHOLES AND INLETS WITH INLET PROTECTION DEVICES.
- CONSTRUCT A LOCAL SUMP AT THE TEMPORARY BATCH PLANT SITE AND PUMP SEDIMENT LADEN RUNOFF TO THE POND 2 SEDIMENT TRAP WHILE EXCAVATING AND CONSTRUCTING BATCH PLANT FOOTINGS AND PAVING.
- STABILIZE SIDE SLOPES AND DITCHES AFTER COMPLETION OF THE GRADING ACTIVITIES.
- 5. CONSTRUCT PARKING LOT.

# PHASE 1C (CONSTRUCT CASTING BASIN FACILITY)

- CONTINUE CONSTRUCTION OF THE CASTING BASIN, GATE, SILL, AND JAMB. ALL SEDIMENT LADEN RUNOFF WILL BE PUMPED TO THE SEDIMENT PONDS FOR TREATMENT.
- CONSTRUCT THE POND 2 SEDIMENT POND. CONSTRUCT THE NORTH (POND 1)
  SEDIMENT POND AND CONVERT THREE CELLS (#2, 3 & 4) INTO PROCESS WATER
  TREATMENT CELLS
- CONSTRUCT LOCAL SUMPS FOR THE PRECAST LAYDOWN AREAS AND PUMP SEDIMENT LADEN RUNOFF TO THE SEDIMENT POND.
- 4. BEGIN CONSTRUCTING PRECAST LAYDOWN COMPONENTS AND UTILIZING THE NORTH POND AS A PROCESS WATER TREATMENT POND.
- 5. BATCH DISCHARGE TO THE CITY OF ABERDEEN WASTEWATER TREATMENT PLANT SHALL MEET THE REQUIREMENTS IN THE DOE WASTEWATER DISCHARGE PERMIT.
- DISCHARGE TO THE DITCH SHALL MEET THE REQUIREMENTS OF THE SAND AND GRAVEL GENERAL PERMIT.
- CONSTRUCT A TEMPORARY SUMP FOR THE PARKING LOT AREA PUMP THE DITCH DRY AND DISCHARGE ALL SEDIMENT LADEN WATER INTO THE POND 3 SEDIMENT POND, INSTALL STRAW BALES, AND GRAVEL BERM ACROSS THE EXISTING DITCH AREA AND CLEAR AND GRUB THE PARKING LOT AREA.
- 8. STABILIZE THE SIDE SLOPES OF THE PARKING LOT, CONSTRUCT AND STABILIZE PERMANENT DITCHES.
- 9. COMPLETE THE CASTING BASIN.

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PROJ. ENGR.	T. SCHNETZER	REV 0 - RELEASE FOR CONSTRUCTION	02-09-11	RIK	007	826	
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SR 520
PONTOON CONSTRUCTION
DESIGN-BUILD PROJECT
PACKAGE B - SITE FACILITY IMPROVEMENTS

TESC NOTES

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#### PHASE 1D (CONSTRUCT CASTING BASIN FACILITY)

- INSTALL TEMPORARY SILT FENCE FROM THE HIGH WATER LINE UP TO THE CONSTRUCTED GATE, SILL, AND JAMB AREA
- INSTALL A TEMPORARY INTERCEPTOR DITCH AND SUMP TO CAPTURE SEDIMENT LADEN RUNOFF AND BEGIN CLEARING AND GRUBBING THE BEACH ZONE AND
- BEGIN DREDGING ACTIVITIES ACCORDING TO THE DREDGING BEST MANAGEMENT PRACTICES IN IN-WATER WORK REQUIREMENTS IN THE WOMPP.
- STABILIZE THE DREDGED SIDE SLOPES AS DREDGING PROCEEDS
- INSTALL PILES, FENDERS, AND INSTALL THE PERMANENT POND OUTFALLS.
- IF AN ENHANCED FILTRATION SYSTEM IS USED, POLYACRYLAMIDE (PAM) SHALL NOT BE USED ON THE PROJECT.
- REMOVE THE TEMPORARY PUMP SYSTEMS AND ENHANCED SAND FILTRATION

#### PHASE 2 (CONSTRUCT PONTOONS)

- MAINTAIN PERIMETER FENCING, SILT FENCE, AND HIGH VISIBILITY FENCING.
- CLEAN OUT SEDIMENT, STABILIZE ALL PONDS, INSTALL OIL CONTAINMENT BOOMS IN PONDS 1,2, AND 3 AS NEEDED.
- MAINTAIN BIOFILTRATION SWALES TO BE CLEAR AND FREE OF TRASH, OR OTHER CONSTRUCTION DEBRIS
- INLET PROTECTION SHALL BE MAINTAINED.
- TRUCK WASH WATER SHALL BE DISPOSED OF ACCORDING TO PERMIT CRITERIA.
- THE TRUCK FUELING AREA SHALL UTILIZE SPILL PREVENTION BEST MANAGEMENT PRACTICES TO CONTAIN AND PREVENT FUEL SPILLS.
- THE TEMPORARY WORK AREAS ON THE CRANE RAIL SHALL UTILIZE SPILL PREVENTION BEST MANAGEMENT PRACTICES TO PREVENT CONCRETE, OIL, GREASE, OR OTHER MATERIALS FROM FALLING ONTO THE CASTING BASIN SIDE SLOPES.
- THE PERMANANT GROUNDWATER DEWATERING PUMP SYSTEM SHALL DISCHARGE TO THE STABILIZED PRESETTLEMENT POND FOR INFILTRATION IN THE INFILTRATION TRENCH
- NOT USED.

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E. COSTA

R. JOHNSON

R. KITTLER

T. SCHNETZER

K. DAYTON

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- 10. THE NORTH POND (CELLS 2 4) WILL TREAT THE PROCESS WATER FOR ph.
- A CONNECTION TO THE CITY OF ABERDEEN WASTEWATER TREATMENT PLANT SEWER SYSTEM WILL BE IN PLACE AS A CONTINGENCY FOR BATCH DISCHARGE OF TREATED PROCESS WATER ACCORDING TO THE TEMPORARY WASTEWATER DISCHARGE PERMIT.
- IF AN ENHANCED SAND FILTRATION SYSTEM IS USED, POLYACRYLAMIDE (PAM) SHALL NOT BE USED ON THE PROJECT
- PONDS 2 AND 3 SHALL FUNCTION AS WET POND TREATMENT SYSTEMS FOR BOTH 13. SEDIMENT CONTROL AND WATER QUALITY.

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14. INSTALL COMPOST SOCKS IN DITCHES DRAINING INTO THE POND SYSTEMS.

#### PHASE 2 (PONTOON FLOAT OUT)

- PRIOR TO FLOAT OUT, THE CASTING BASIN SHALL BE CLEANED OF DIRT AND OTHER CONSTRUCTION DEBRIS. THE BASIN SHALL BE HOSED DOWN AND THE PROCESS WATER COLLECTION SHALL BE FLUSHED.
- CASTING BASIN INLETS SHALL BE FITTED WITH INLET PROTECTION MATERIAL, THE PROCESS WATER PUMPS SHALL BE SHUT OFF AND THE SUMPS SHALL BE
- THE GROUNDWATER PUMPS SHALL BE TURNED OFF JUST BEFORE FLOODING THE CASTING BASIN.
- AFTER FLOODING, THE GATE SYSTEM WILL BE REMOVED AND THE PONTOONS WILL BE FLOATED OUT. AFTER FLOAT OUT, THE GATE WILL BE REPLACED AND THE CASTING BASIN WILL BE DRAWN DOWN.
- A FISH SCREED, FISH BOX, AND OTHER FISH PRESERVATION DEVICES SHALL BE USED TO SAFELY COLLECT AND TRANSPORT THE FISH FROM THE CASTING BASIN TO THE LAUNCH CHANNEL
- THE GROUNDWATER PUMPS SHALL BE TURNED ON WHILE FISH TRANSPORT ACTIVITIES ARE IN PROCESS.

# PHASE 3 (MOTHBALL STATE)

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- REMOVE AND DISPOSE OF THE SILT FENCE.
- REMOVE AND DISPOSE OF THE INLET PROTECTION DEVICES.
- CLOSE THE SHEAR GATE TEMPORARY CONNECTION OF THE PROCESS WATER POND TO THE CITY OF ABERDEEN WASTEWATER TREATMENT SYSTEM.
- STABILIZE DITCHES AS NECESSARY.
- STABILIZED SIDE SLOPES AS NECESSARY.
- REMOVE CONSTRUCTION SIGNS AND CONSTRUCTION ENTRANCES.

#### CONSTRUCTION SEQUENCE FOR WEST DITCH OUTFALL CONSTRUCTION

- WORK WILL BE CONDUCTED AS EXPEDIENTLY AS POSSIBLE AT EACH INDIVIDUAL OUTFALL. WORK WILL BE SCHEDULED TO MAXIMIZE THE DURATION OF THE WORK TO BE CONSTRUCTED AT LOW TIDE, WHEN THE WORK AREA IS DRY. IT IS ANTICIPATED THAT WORK AT EACH OUTFALL CAN BE COMPLETED WITHIN ONE TIDAL CYCLE.
- AT LOW TIDE, WHEN THE WORK AREA IS DRY, THE WORK AREA WILL BE BLOCKED OFF FROM THE DITCH WITH A TEMPORARY DAM CONSTRUCTED OF SANDBAGS OR EQUIVALENT. THIS WILL ENSURE APPROPRIATE FISH EXCLUSION FROM THE WORK AREAS. IN EARLY APRIL 2011, THERE ARE MANY DAYS DURING WHICH THERE ARE 7- TO 8-HOUR PERIODS DURING DAYLIGHT HOURS WHEN THE TIDE IS BELOW ELEVATION +5 MLLW (WHICH IS APPROXIMATELY THE LOWEST ELEVATION OF THE PROPOSED WORK).
- ALL CONSTRUCTION ACTIVITIES WILL BE CONDUCTED BY EQUIPMENT LOCATED AT THE TOP OF BANK, OR BY HAND WORK WITHIN THE WORK AREA. EXCAVATED MATERIAL WILL BE IMMEDIATELY PLACED IN THE UPLAND AREA OF THE SITE AND APPROPRIATELY MANAGED PER TESC REQUIREMENTS.
- TURBID WATER THAT MAY BE PRESENT WITHIN THE WORK AREA WILL BE PUMPED TO SEDIMENT TRAPS OR BAKER TANKS ON THE UPLAND.
- IT IS ANTICIPATED THAT WORK AT EACH OUTFALL WILL BE ABLE TO BE COMPLETED WITHIN ONE TIDAL CYCLE, TO THE GREATEST EXTENT POSSIBLE WHILE THE TIDE IS OUT AND THE ADJACENT DITCH AREA HAS MINIMAL FLOW.
- BECAUSE THE WORK IS BEING CONDUCTED IN OFF-CHANNEL AREAS OF THE DITCH AND THE TEMPORARY SANDBAG DAMS WILL SEPARATE WORK AREAS FROM THE DITCH, FLOW WITHIN THE DITCH WILL NOT BE IMPEDED
- WHEN THE NEW SURFACES WITHIN THE WORK AREA ARE STABILIZED, THE SANDBAG DAMS WILL BE REMOVED, WITH THE DOWNSTREAM SANDBAGS REMOVED FIRST TO MINIMIZE TURBIDITY AND FISH DISTURBANCE.

**Kiewit** General





SR 520 PONTOON CONSTRUCTION **DESIGN-BUILD PROJECT** PACKAGE B - SITE FACILITY IMPROVEMENTS

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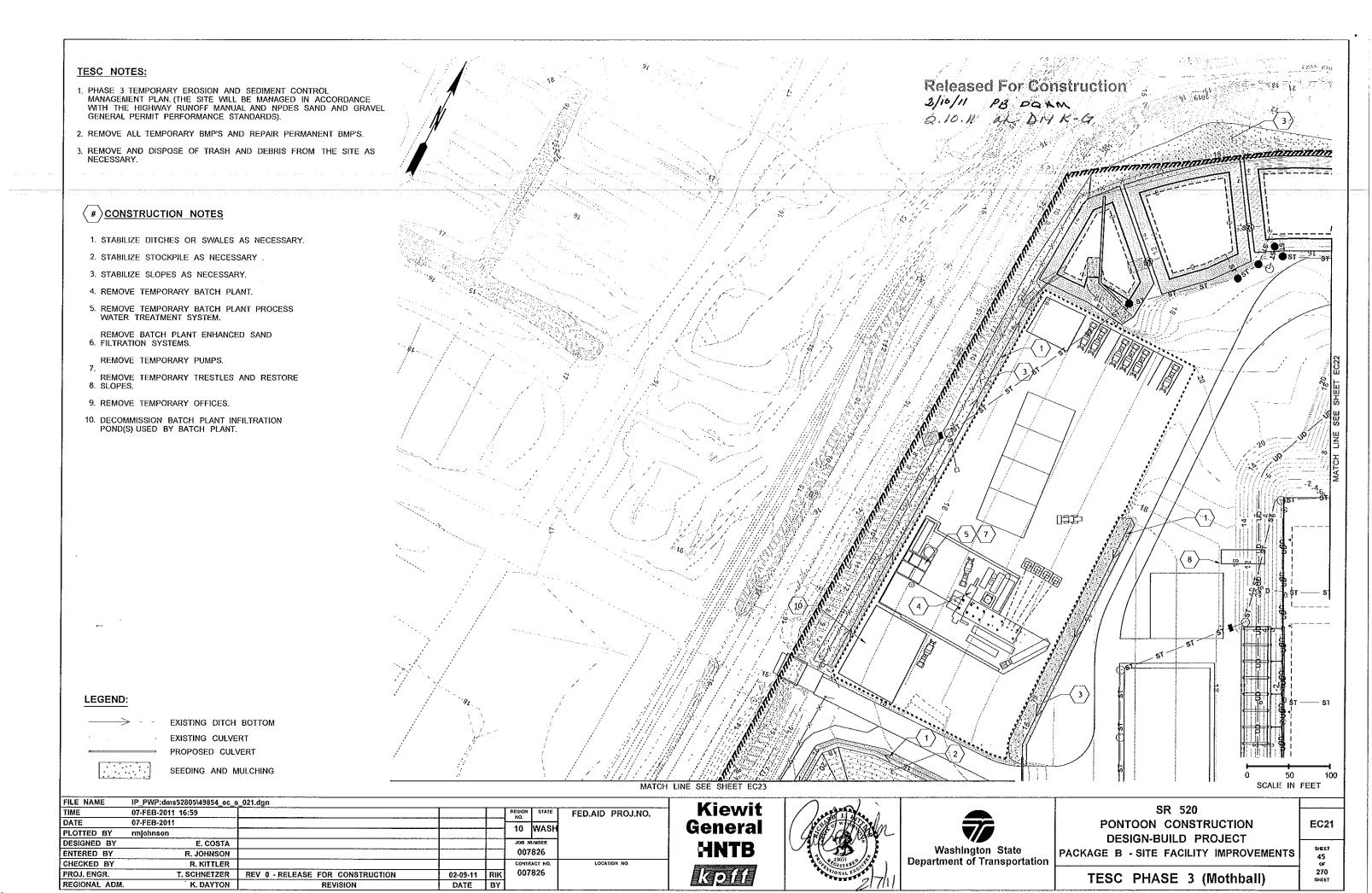
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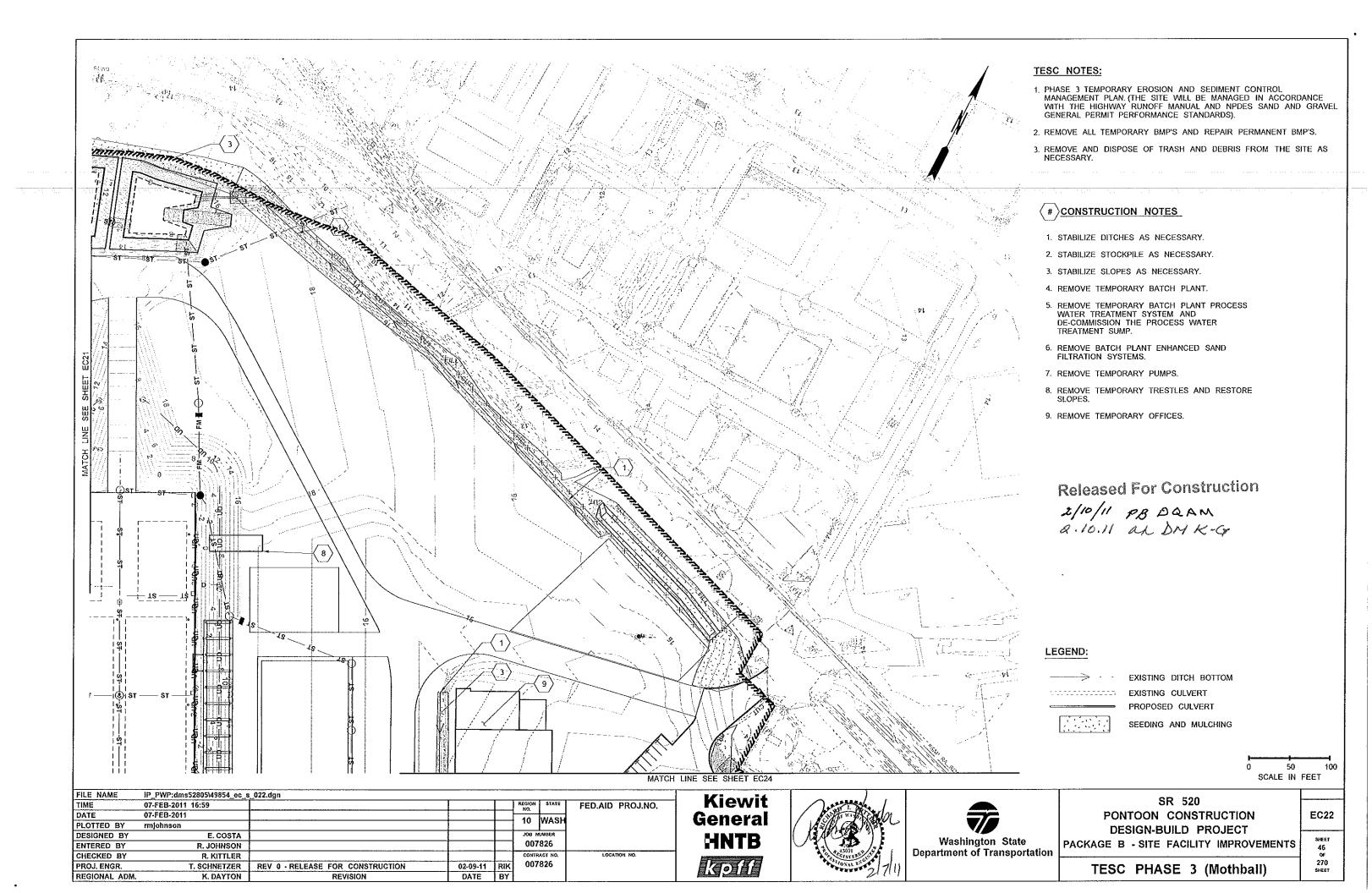
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## **TESC NOTES:**

- 1. PHASE 3 TEMPORARY EROSION AND SEDIMENT CONTROL MANAGEMENT PLAN. (THE SITE WILL BE MANAGED IN ACCORDANCE WITH THE HIGHWAY RUNOFF MANUAL AND NPDES SAND AND GRAVEL GENERAL PERMIT PERFORMANCE STANDARDS).
- 2. REMOVE ALL TEMPORARY BMP'S AND REPAIR PERMANENT BMP'S.
- 3. REMOVE AND DISPOSE OF TRASH AND DEBRIS FROM THE SITE AS NECESSARY.

# ⟨ # ⟩ CONSTRUCTION NOTES

- 1. STABILIZE DITCHES AS NECESSARY.
- 2. STABILIZE STOCKPILE AS NECESSARY.
- 3. STABILIZE SLOPES AS NECESSARY.
- 4. REMOVE TEMPORARY BATCH PLANT.
- 5. REMOVE TEMPORARY BATCH PLANT PROCESS WATER TREATMENT SYSTEM AND DE-COMMISSION THE PROCESS WATER SUMP.
- 6. REMOVE BATCH PLANT ENHANCED SAND FILTRATION SYSTEMS.
- 7. REMOVE TEMPORARY PUMPS.
- 8. REMOVE TEMPORARY TRESTLES AND RESTORE SLOPES.
- 9. REMOVE TEMPORARY OFFICES.

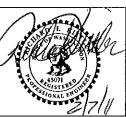
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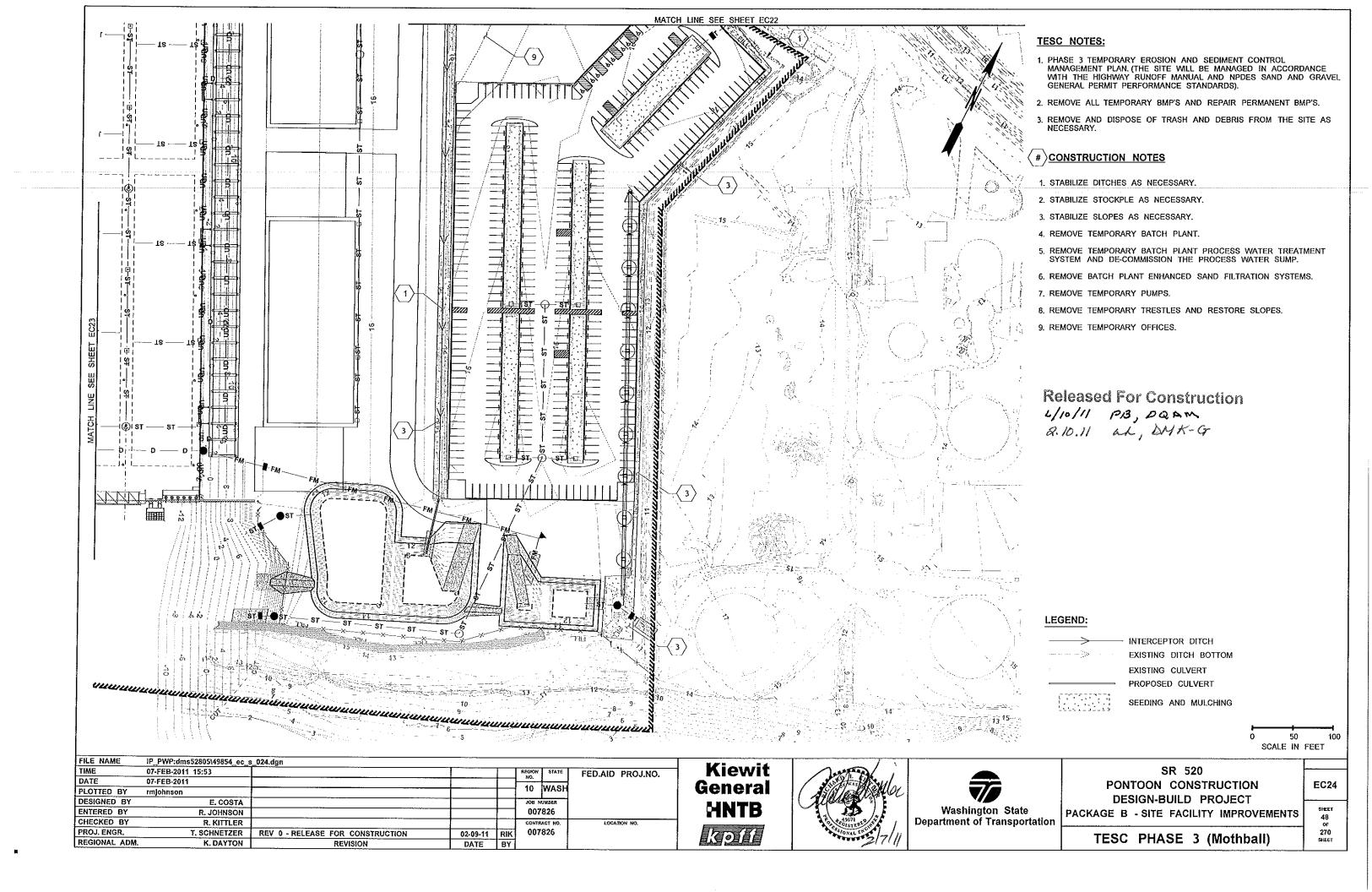
TESC PHASE 3 (Mothball)							
ACKAGE B - SITE FACILITY IMPROVEMENTS							
DESIGN-BUILD PROJECT							
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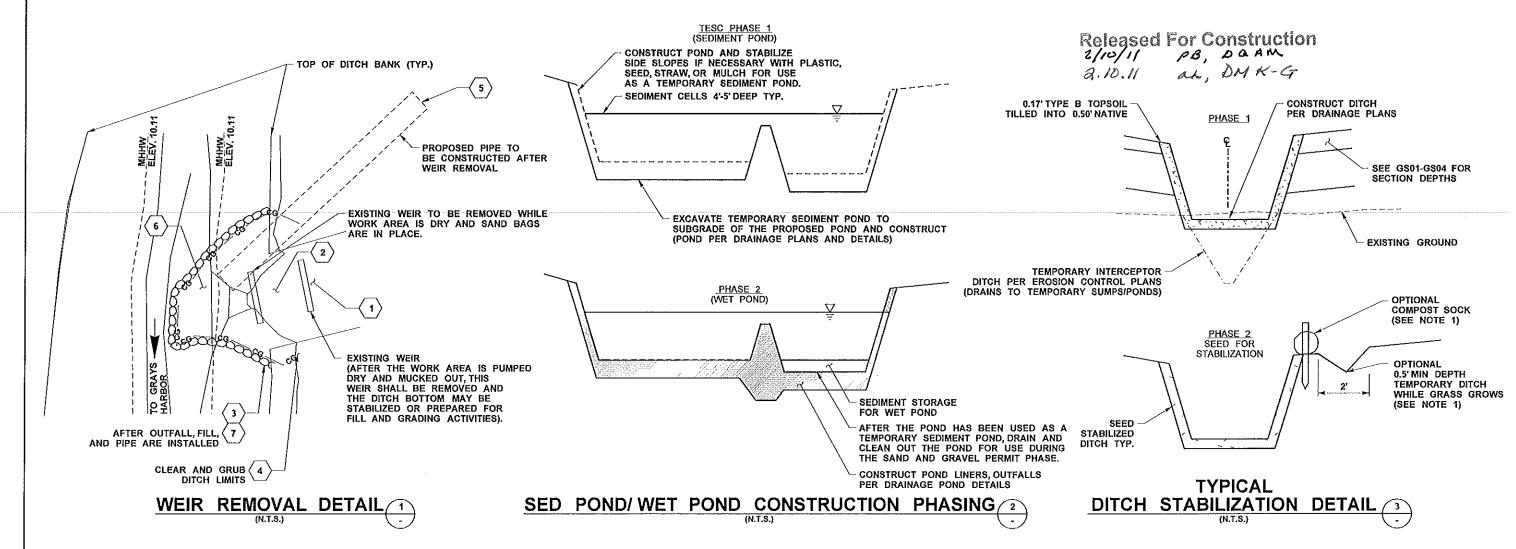
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## CONSTRUCTION SEQUENCE

- 1 PUMP DRY AND EXCAVATE TEMPORARY SUMP
- (2) PUMP DRY AND REMOVE EXISTING WEIRS.
- PLACE TEMPORARY SAND BAGS AROUND WORK ZONE AND PUMP EXCAVATION AREA DRY.
- 4 CLEAR AND GRUB AREA FOR PIPE AND OUTFALL CONSTRUCTION
- 5 LAY PIPE BEDDING, PIPE OUTFALL AND BACKFILL.
- 6 CONSTRUCT OUTFALL AND OUTFALL PROTECTION PAD PER DRAINAGE PLANS
- 7 REMOVE TEMPORARY SAND BAGS

#### CONSTRUCTION NOTE:

- 1. ALL WORK SHALL BE DONE DURING EBB AND/OR LOW TIDE.
- 2. AFTER SAND BAGS ARE PLACED ACROSS THE EXCAVATION AREA, THE DITCH WATER WITHIN THE IMPACT AREA SHALL BE PUMPED DRY. THE AREA FOR THE OUTFALL PROTECTION PAD SHALL BE CLEARED AND GRUBBED, LINED WITH A CONSTRUCTION GEOTEXTILE FOR PERMANENT EROSION CONTROL AND BACKFILLED WITH COMMON BORROW AND QUARRY SPALLS.

# CONSTRUCTION SEQUENCE

#### TESC PHASE 1

- 1. EXCAVATE POND TO PROPOSED SUBGRADE AND CONSTRUCT POND.
- 2. USE POND AS A SEDIMENT POND DURING SITE CONSTRUCTION AND GRADING ACTIVITIES.

#### TESC PHASE 2

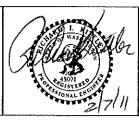
1. AFTER THE CASTING BASIN IS COMPLETED AND THE BATCH PLANT IS ON-LINE, PUMP SEDIMENT PONDS/PONDS DRY AND MUCK OUT SEDIMENT. POND TRANSITIONS FROM A SEDIMENT POND TO A WET POND IN TESC PHASE 2 TO COMPLY WITH THE DOE SAND AND GRAVEL PERMIT DISCHARGE CRITERIA. STORM WATER MAYBE PUMPED TO TEMPORARY TANKS OR OTHER PONDS/PONDS DURING CLEANING OR USE.

# CONSTRUCTION NOTES

1. OPTIONAL TEMPORARY DITCH AND COMPOST SOCK MAY NOT BE NECESSARY FOR DITCH STABILIZATION AND SEED GERMINATION. IF FIELD CONDITIONS CAN DEMONSTRATE THAT FLOWS WILL NOT FLUSH OUT SEED, AND GRASS STABILIZATION CAN DEVELOP, FLOW DIVERSION/CONTROL METHODS SHOWN WILL NOT NEED TO BE PERFORMED.

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TESC DETAILS

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# **Attachment C**

**Erosion and Sediment Control Inspection Form** 



# Washington State Erosion and Sediment Control Inspection

Project Name	R 520 Pontoons		Contract Number 323-14285
ESC Lead Name	IN 320 FOIILOONS	Inspection Location:	323-14203
Date Tin	ne	520 Pontoon Casting Yard Current Weather Conditions	Precipitation in 24 hours
TYPE OF INSPECTION  Weekly >0	(choose all that a	apply):  Wet Season (Oct. 1 - Apr.	30)
BMP Designation	Status		Corrective Action, General Notes
1. Mark Clearing	Status	BIVIF LOCATION & CONDITION,	Corrective Action, General Notes
Limits:  Are high visibility and perimeter fences in good condition?	☐ OK ☐ Not OK ☐ N/A		
2. Construction Access Stabilized: Is track-out of sediment prevented?	☐ OK ☐ Not OK ☐ N/A		
3. Control Flow Rates: Are flow rates causing erosion in pond, outlets, etc.?	☐ OK ☐ Not OK ☐ N/A		
4. Install Sediment Controls: Are sediment controls in place & functioning properly?	☐ OK ☐ Not OK ☐ N/A		
5. Stabilize Soils: Has bare soil been protected and is erosion prevented?	☐ OK ☐ Not OK ☐ N/A		
6. <b>Protect Slopes:</b> Have slopes been protected and is erosion prevented?	OK Not OK N/A		
7. <b>Protect Drain Inlets:</b> below grate filters	OK Not OK N/A		
above grate protection	☐ OK ☐ Not OK ☐ N/A		
grate covers	OK Not OK N/A		
check dams or other	☐ OK ☐ Not OK ☐ N/A		
8. Stabilize Channels & Outlets: Are conveyances (channels & outlets) Stabilized?	☐ OK ☐ Not OK ☐ N/A		

BMP Designation	Status	BMP Location & Condition, Corrective Action, General Notes					
9. Control Pollutants: Are all pollutants handled & disposed of in a way that doesn't contaminate stormwater?	☐ OK ☐ Not OK ☐ N/A						
10.Control Dewatering/Water Management: Is groundwater being dealt with in accordance with 8-01.3(1)C?  OK Not OK N/A							
11. <b>Maintain BMPs:</b> Are all BMPs maintained to assure continued performance of their intended function?	OK Not OK N/A						
12.Manage the Project: Are TESC plan sheets reflective of current field conditions?	OK Not OK N/A						
Describe water discharging present. Note any suspend "cloudiness," discoloration,	ed sediment,	-POC-1 -POC-2 -POC-3 -POC-4 -POC-5 -Temp POC-6 -POC-6 -POC-7 -POC-8					
This site is in compliance with the TESC and SPCC plans and the NPDES permit.	☐ OK ☐ Not OK ☐ N/A						
Comments							
Lordify that this report is	truo accurato	and complete, to the best of my knowledge and belief.					
ESC Lead Signature:  Reviewed By:	truo, uoodrato,	and complete, to the sect of my knowledge and sellen					
		nit Condition S4.F.1 (at least once between Oct. 1 - Apr. 30, during heavy rainfall event): escribed in the SWPPP?					
-Note observations for presence of floating materials, suspended solids, oil, grease, discoloration, turbidity, odor, etc. in the stormwater discharges:							
	- Is the Site Map in the SWPPP up to date?						
-Are established controls add	equate to reduce	pollutants in stormwater discharges?					
FOR DRY SEASON INSPECTION per Permit Condition S4.F.2 (at least once between May 1 - Sep. 30, after 7 consecutive dry days): - Is there process water being discharged to stormwater drainage system?							
Check all BMPs. Is the SWPPP being fully implemented?							

# ATTACHMENT D:

**EROSION & SEDIMENT CONTROL SITE MAP** 

